IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

<u>Listing of Claims:</u>

1. (Currently amended) A method for managing access to a resource, the method comprising the computer-implemented steps of:

sending, from a requestor to a master of the resource, a lock mode request for a lock mode on the resource;

receiving the resource at the requestor from a holder of the resource, <u>wherein the holder of the resource is separate and distinct from the master of the resource</u>; and

accessing the resource as if the requestor had been granted the lock mode without waiting to receive an express lock mode grant from the master.

2. (Previously presented) The method of Claim 1, further comprising the computer-implemented steps of:

detecting that the step of receiving the resource at the requestor has occurred; and

sending a lock assume message, from the requestor to the master, to inform the master that the requestor has assumed the lock mode relative to the resource.

3. (Previously presented) A method for managing access to a resource, the method comprising the computer-implemented steps of:

receiving, at a holder, an inform lock holder message that a requestor needs the resource, where the holder currently holds the resource and a first lock mode on the resource;

transferring the resource to the requestor in response to receiving the inform lock holder message without sending a status message to a master of the resource wherein the status message is a down-convert message or a release lock message; and

10   updating a lock mode record, maintained by the holder, to indicate that the holder

11   has down-converted from the first lock mode to a second lock mode for

12   the resource.

1   4.   (Previously presented) The method of Claim 3, further comprising the computer-

2   implemented step of:

3   sending an update lock message to the master, wherein the update lock message

4   indicates the second lock mode for the resource.

1   5.   (Previously presented) The method of Claim 3, further comprising the computer-

2   implemented steps of:

3   receiving, at the holder, a message from a sender, wherein the message includes a

4   third lock mode on the resource;

5   detecting that the first lock mode and the third lock mode do not match; and

6   sending a lock status message to the sender, wherein the lock status message

7   includes the first lock mode.

1   6.   (Previously presented) The method of Claim 3, further comprising the computer-

2   implemented steps of:

3   receiving, at the holder, a single batched inform lock holder message that contains

4   all information necessary to transfer the resource to a plurality of

5   requestors; and

6   transferring the resource to the plurality of requestors.

1   7.   (Previously presented) The method of Claim 3, further comprising the computer-

2   implemented step of:

3   sending a lock access message from the holder to a master.

1   8.   (Currently amended) A method for managing access to a resource, the method

2   comprising the computer-implemented steps of:

3   receiving, at a master, a request message which indicates that a requestor needs a

4   particular resource of a plurality of resources, where the master maintains

5   a plurality of lock mode records corresponding to the plurality of

6   resources;

7   sending, from the master to a holder, an inform lock holder message to indicate to

8   the holder that the requestor needs the particular resource <u>and to identify</u>

9   <u>the requestor to the holder to allow the holder to send the particular</u>

10   <u>resource directly to the requestor</u>;

11   receiving a lock access message from the requestor where the lock access message

12   indicates that the requestor has assumed a lock mode relative to the

13   particular resource; and

14   performing an update to a particular lock mode record of the plurality of lock

15   mode records in response to receiving the lock access message, wherein

16   the update indicates that the requestor has assumed the lock mode on the

17   particular resource.

1   9.   (Previously presented) The method of Claim 8, wherein the computer-

2   implemented step of performing an update to a particular lock mode record of the

3   plurality of lock mode records in response to receiving the plurality of lock mode

4   records in response to receiving the lock access message is performed prior to

5   receiving any status message from the holder relating to the particular resource,

6   and wherein the status message is a down-convert message or a release lock

7   message.

1   10.   (Previously presented) The method of Claim 8, wherein the computer-

2   implemented step of performing an update to a particular lock mode record of the

3   plurality of lock mode records in response to receiving the plurality of lock mode

4   records in response to receiving the lock access message is performed without

5   receiving the status message from the holder relating to the particular resource,

6   and wherein the status message is a down-convert message or a release lock

7   message.

1   11.   (Previously presented) The method of Claim 8, further comprising the computer-

2   implemented steps of:

3   receiving, at the master, a plurality of request messages which indicate that a

4   plurality of requestors need the particular resource; and

5   sending from the master to the holder the inform lock holder message, wherein the

6   inform lock holder message contains all information from the plurality of

7   request messages that is necessary for the holder to transfer the particular

8   resource to the plurality of requestors.

1   12.   (Previously presented) The method of Claim 8, further comprising the computer-

2   implemented steps of:

3   receiving, at the master, a message from a sender, wherein the message includes a

4   second lock mode on the particular resource;

5   detecting that the lock mode and the second lock mode do not match; and

6   sending a lock status message to the sender, wherein the lock status message

7   includes the lock mode.

1   13.   (Previously presented) The method of Claim 8, further comprising the computer-

2   implemented steps of:

3   receiving, at the master, a second request message, wherein the request message

4   and the second request message both contain requests for the resource in

5   exclusive lock mode; and

6   queuing the second request message until the master receives the lock access

7   message from the requestor.

1   14.   (Previously presented) A method for managing access to a resource, the method

2   comprising the computer-implemented steps of:

3   receiving, at a master, a request message which indicates that a requestor needs a

4   particular resource of a plurality of resources, where the master maintains

5   a plurality of lock mode records corresponding to the plurality of

6   resources;

7   designating one holder out of a plurality of holders wherein the plurality of

8   holders all have respective lock modes for the particular resource;

9   sending a plurality of broadcast inform lock holder messages, to the plurality of

10   holders except for the one holder, indicating that the requestor needs the

11   particular resource;

12   receiving a plurality of update lock messages from the plurality of holders except

13   for the one holder, wherein the plurality of update lock messages indicates

14   the respective lock modes of the plurality of holders;

15   sending, from the master to the one holder, an inform lock holder message to

16   indicate to the one holder that the requestor needs the particular resource;

17   receiving a lock access message from the requestor where the lock access message

18   indicates that the requestor has assumed a lock mode relative to the

19   particular resource; and

20   performing an update to a particular lock mode record of the plurality of lock

21   mode records in response to receiving the lock access message without the

22   master receiving a status message from the one holder, wherein the status

23   message is a down-convert message or a release lock message, and

24   wherein the update indicates that the requestor has assumed the lock mode

25   on the particular resource.

1   15.   (Currently amended) A computer system, comprising:

2   a processor;

3   a computer-readable medium storing instructions of the computer system which,

4   when executed by the processor, cause the processor to perform the computer-

5   implemented steps of:

6   sending, from a requestor to a master of a resource, a lock mode request for the

7   lock mode on the resource;

8   receiving the resource at the requestor from a holder of the resource, wherein the

9   holder of the resource is separate and distinct from the master of the

10   resource; and

11   accessing the resource as if the requestor had been granted the lock mode without

12   waiting to receive an express lock mode grant from the master.

1   16.   (Previously presented) The computer system of Claim 15, wherein the computer-

2   implemented steps further comprise the computer-implemented steps of:

3   detecting that the step of receiving the resource at the requestor has occurred; and

4   sending a lock assume message from the requestor to the master to inform the

5   master that the requestor has assumed the lock mode relative to the

6   resource.

1   17.   (Currently amended) A computer system, comprising:

2   a processor;

3   a computer-readable medium, coupled to the processor, containing:

4   a particular lock mode record of a plurality of lock mode records

5   corresponding to a lock mode of a particular resource of a plurality

6   of resources, where a master maintains the plurality of lock mode

7   records corresponding to the plurality of resources, wherein the

8   computer-readable medium stores instructions of the computer

9   system which, when executed by the processor, cause the processor

10   to perform the computer-implemented steps of:

11   receiving, at the master, a request message which indicates that a

12   requestor needs the particular resource of the plurality of

13   resources, where the master maintains the plurality of lock

14   mode records corresponding to the plurality of resources;

15   sending, from the master to a holder, an inform lock holder

16   message to indicate to the holder that the requestor needs

17   the particular resource <u>and to identify the requestor to the</u>

18   <u>holder to allow the holder to send the particular resource</u>

19   <u>directly to the requestor</u>;

20   receiving a lock access message from the requestor where the lock

21   access message indicates that the requestor has assumed the

22   lock mode relative to the particular resource; and

23 performing an update to the particular lock mode record of the

24 plurality of lock mode records in response to receiving the

25 lock access message without receiving a status message,

26 ~~wherein the status message is a down-convert message or a release~~

27 ~~lock message,~~ and

28 wherein the update indicates that the requestor has assumed the

29 lock mode on the particular resource.

1 18. (Previously presented) The computer system of Claim 17, wherein the computer-

2 implemented step of performing an update to a particular lock mode record of the

3 plurality of lock mode records in response to receiving the lock access message is

4 performed prior to receiving any status message from the holder relating to the

5 particular resource, and wherein the status message is a down-convert message or

6 a release lock message.

1 19. (Previously presented) The computer system of Claim 17, wherein the computer-

2 implemented step of performing an update to a particular lock mode record of the

3 plurality of lock mode records in response to receiving the plurality of lock mode

4 records in response to receiving the lock access message is performed without

5 receiving the status message from the holder relating to the particular resource,

6 and wherein the status message is a down-convert message or a release lock

7 message.

1 20. (Previously presented) The computer system of Claim 17, wherein computer-

2 implemented steps further comprise the computer-implemented steps of:

3 receiving, at the master, a plurality of request messages which indicate that a

4 plurality of requestors need the particular resource; and

5 sending, from the master to the holder, the inform lock holder message, wherein

6 the inform lock holder message contains all information from the plurality

7 of request messages that is necessary for the holder to transfer the

8 particular resource to the plurality of requestors.

1   21.   (Previously presented) The computer system of Claim 17, wherein the computer-

2   implemented steps further comprise the computer-implemented steps of:

3   receiving, at the master, a message from a sender, wherein the message includes a

4   second lock mode on the particular resource;

5   detecting that the lock mode and the second lock mode do not match; and

6   sending a lock status message to the sender, wherein the lock status message

7   includes the lock mode.

1   22.   (Previously presented) The computer system of Claim 17, wherein the computer-

2   implemented steps further comprise the computer- implemented steps of:

3   receiving, at the master, a second request message wherein the request message

4   and the second request message both contain requests for the resource in

5   exclusive lock mode; and

6   queuing the second request message until the master receives the lock access

7   message from the requestor.

1   23.   (Previously presented) A computer system, comprising:

2   a processor;

3   a computer-readable medium, coupled to the processor, containing:

4   a particular lock mode record of a plurality of lock mode records

5   corresponding to a lock mode of a particular resource of a plurality

6   of resources, where a master maintains the plurality of lock mode

7   records corresponding to the plurality of resources, wherein the

8   computer-readable medium stores instructions of the computer

9   system which, when executed by the processor, cause the processor

10   to perform the computer-implemented steps of:

11   receiving, at a master, a request message which indicates that a

12   requestor needs the particular resource of the plurality of

13   resources, where the master maintains the plurality of lock

14   mode records corresponding to the plurality of resources;

15   designating one holder out of a plurality of holders wherein the

16   plurality of holders all have respective lock modes for the

17   particular resource;

18   sending a plurality of broadcast inform lock holder messages, to

19   the plurality of holders except for the one holder, indicating

20   that the requestor needs the particular resource;

21   receiving a plurality of update lock messages from the plurality of

22   holders except for the one holder, wherein the plurality of

23   update lock messages indicates the respective lock modes

24   of the plurality of holders;

25   sending, from the master to the one holder, an inform lock holder

26   message to indicate to the one holder that the requestor

27   needs the particular resource;

28   receiving a lock access message from the requestor where the lock

29   access message indicates that the requestor has assumed the

30   lock mode relative to the particular resource; and

31   performing an update to the particular lock mode record of the

32   plurality of lock mode records in response to receiving the

33   lock access message without the master receiving a status

34   message from the one holder,

35   wherein the status message is a down-convert message or a release

36   lock message, and

37   wherein the update indicates that the requestor has assumed the

38   lock mode on the particular resource.

1   24.   (Previously presented) A computer system, comprising:

2   a processor;

3   a computer-readable medium, coupled to the processor, containing:

4   a resource and a first lock mode on the resource; and

5   a lock mode record associated with the resource, wherein the computer-

6   readable medium stores instructions of the computer system which,

7   when executed by the processor, cause the processor to perform the

8   computer-implemented steps of:

9   receiving, at a holder, an inform lock holder message that a

10   requestor needs the resource, wherein the holder currently

11   holds the resource and the first lock mode on the resource;

12   transferring the resource to the requestor in response to receiving

13   the inform lock holder message without sending a status

14   message to a master of the resource wherein the status

15   message is a down-convert message or a release lock

16   message; and

17   updating the lock mode record, maintained by the holder, to

18   indicate that the holder has down-converted from the first

19   lock mode to a second lock mode for the resource.

1   25.   (Previously presented) The computer system of Claim 24, wherein the computer-

2   implemented steps further comprise the computer-implemented step of:

3   sending an update lock message to the master, wherein the update lock message

4   indicates the second lock mode for the resource.

1   26.   (Previously presented) The computer system of Claim 24, wherein the computer-

2   implemented steps further comprise the computer-implemented steps of:

3   receiving, at the holder, a message from a sender, wherein the message includes a

4   third lock mode on the resource;

5   detecting that the first lock mode and the third lock mode do not match; and

6   sending a lock status message to the sender, wherein the lock status message

7   includes the first lock mode.

1   27.   (Previously presented) The computer system of Claim 24 wherein the computer-

2   implemented steps further comprise the computer-implemented steps of:

3   receiving, at the holder, a single batched inform lock holder message that contains

4   all information necessary to transfer the resource to a plurality of

5   requestors; and

6   transferring the resource to the plurality of requestors.

1   28.   (Currently amended) A computer-readable medium carrying one or more

2   sequences of instructions for managing access to a resource, wherein execution of

3   the one or more sequences of instructions by one or more processors causes the

4   one or more processors to perform the steps of:

5   sending, from a requestor to a master of the resource, a lock mode request for a

6   lock mode on the resource;

7   receiving the resource at the requestor from a holder of the resource, wherein the

8   holder of the resource is separate and distinct from the master of the

9   resource; and

10   accessing the resource as if the requestor had been granted the lock mode request

11   without waiting to receive an express lock mode grant from the master.

1   29.   (Previously presented) The computer-readable medium of Claim 28, wherein

2   execution of the one or more sequences of instructions by the one or more

3   processors causes the one or more processors to further perform the steps of:

4   detecting that the step of receiving the resource at the requestor has occurred; and

5   sending a lock assume message from the requestor to the master to inform the

6   master that the requestor has assumed the lock mode relative to the

7   resource.

1   30.   (Previously presented) A computer-readable medium carrying one or more

2   sequences of instructions for managing access to a resource, wherein execution of

3   the one or more sequences of instructions by one or more processors causes the

4   one or more processors to perform the steps of:

5   receiving, at a holder, an inform lock holder message that a requestor needs the

6   resource, where the holder currently holds the resource and a first lock

7   mode on the resource;

8   transferring the resource to the requestor in response to receiving the inform lock

9 holder message without sending a status message to a master of the

10 resource wherein the status message is a down-convert message or a

11 release lock message; and

12 updating a lock mode record, maintained by the holder, to indicate that the holder

13 has down-converted from the first lock mode to a second lock mode for

14 the resource.

1 31. (Previously presented) The computer-readable medium of Claim 30, wherein

2 execution of the one or more sequences of instructions by the one or more

3 processors causes the one or more processors to further perform the step of:

4 sending an update lock message to the master, wherein the update lock message

5 indicates the second lock mode for the resource.

1 32. (Previously presented) The computer-readable medium of Claim 30, wherein

2 execution of the one or more sequences of instructions by the one or more

3 processors causes the one or more processors to further perform the steps of:

4 receiving, at the holder, a message from a sender, wherein the message includes a

5 third lock mode on the resource;

6 detecting that the first lock mode and the third lock mode do not match; and

7 sending a lock status message to the sender, wherein the lock status message

8 includes the first lock mode.

1 33. (Previously presented) The computer-readable medium of Claim 30, wherein

2 execution of the one or more sequences of instructions by the one or more

3 processors causes the one or more processors to further perform the steps of:

4 receiving, at the holder, a single batched inform lock holder message that contains

5 all information necessary to transfer the resource to a plurality of

6 requestors; and

7 transferring the resource to the plurality of requestors.

1 34. (Previously presented) The method for Claim 30, wherein execution of the one or

2   more sequences of instructions by the one or more processors causes the one or

3   more processors to further perform the step of:

4   sending a lock access message from the holder to a master.

1   35.   (Currently amended) A computer-readable medium carrying one or more

2   sequences of instructions for managing access to a resource, wherein execution of

3   the one or more sequences of instructions by one or more processors causes the

4   one or more processors to perform the steps of:

5   receiving, at a master, a request message which indicates that a requestor needs a

6   particular resource of a plurality of resources, wherein the master

7   maintains a plurality of lock mode records corresponding to the plurality

8   of resources;

9   sending, from the master to a holder, an inform lock holder message to indicate to

10   the holder that the requestor needs the particular resource and to identify

11   the requestor to the holder to allow the holder to send the particular

12   resource directly to the requestor;

13   receiving a lock access message from the requestor where the lock access message

14   indicates that the requestor has assumed a lock mode relative to the

15   particular resource; and

16   performing an update to a particular lock mode record of the plurality of lock

17   mode records in response to receiving the lock access message, wherein

18   the update indicates that the requestor has assumed the lock mode on the

19   particular resource.

1   36.   (Previously presented) The computer-readable medium of Claim 35, wherein the

2   step of performing an update to a particular lock mode record of the plurality of

3   lock mode records in response to receiving the lock access message is performed

4   prior to receiving any status message from the holder relating to the particular

5   resource, and wherein the status message is a down-convert

6   message or a release lock message.

1   37.   (Previously presented) The computer-readable medium of Claim 35, wherein the

2   step of performing an update to a particular lock mode record of the plurality of

3   lock mode records in response to receiving the plurality of lock mode records in

4   response to receiving the lock access message is performed without receiving the

5   status message from the holder relating to the particular resource, and wherein the

6   status message is a down-convert message or a release lock message.

1   38.   (Previously presented) The computer-readable medium of Claim 35, wherein

2   execution of the one or more sequences of instructions by the one or more

3   processors causes the one or more processors to further perform the steps of:

4   receiving, at the master, a plurality of request messages which indicate that a

5   plurality of requestors need the particular resource; and

6   sending, from the master to the holder, the inform lock holder message, wherein

7   the inform lock holder message contains all information from the plurality

8   of request messages that is necessary for the holder to transfer the

9   particular resource to the plurality of requestors.

1   39.   (Previously presented) The computer-readable medium of Claim 35, wherein

2   execution of the one or more sequences of instructions by the one or more

3   processors causes the one or more processors to further perform the steps of:

4   receiving, at the master, a message from a sender, wherein the message includes a

5   second lock mode on the particular resource;

6   detecting that the lock mode and the second lock mode do not match; and

7   sending a lock status message to the sender, wherein the lock status message

8   includes the lock mode.

1   40.   (Previously presented) The computer-readable medium of Claim 35, wherein

2   execution of the one or more sequences of instructions by the one or more

3   processors causes the one or more processors to further perform the steps of:

4   receiving, at the master, a second request message, wherein the request message

5   and the second request message both contain requests for the resource in

6   exclusive lock mode; and

7   queuing the second request message until the master receives the lock access

8   message from the requestor.

1   41.   (Previously presented) A computer-readable medium carrying one or more

2   sequences of instructions for managing access to a resource, wherein execution of

3   the one or more sequences of instructions by one or more processors causes the

4   one or more processors to perform the steps of:

5   receiving, at a master, a request message which indicates that a requestor needs a

6   particular resource of a plurality of resources, where the master maintains

7   a plurality of lock mode records corresponding to the plurality of

8   resources;

9   designating one holder out of a plurality of holders wherein the plurality of

10   holders all have respective lock modes for the particular resource;

11   sending a plurality of broadcast inform lock holder messages, to the plurality of

12   holders except for the one holder, indicating that the requestor needs the

13   particular resource;

14   receiving a plurality of update lock messages from the plurality of holders except

15   for the one holder,

16   wherein the plurality of update lock messages indicates the respective lock modes

17   of the plurality of holders;

18   sending, from the master to the one holder, an inform lock holder message to

19   indicate to the one holder that the requestor needs the particular resource;

20   receiving a lock access message from the requestor where the lock access message

21   indicates that the requestor has assumed a lock mode relative to the

22   particular resource; and

23   performing an update to a particular lock mode record of the plurality of lock

24   mode records in response to receiving the lock access message without the

25   master receiving a status message from the one holder,

26   wherein the status message is a down-convert message or a release lock message,

27   and

28   wherein the update indicates that the requestor has assumed the lock mode on the

29   particular resource.

1   42.   (Cancelled).

1   43.   (Cancelled).